

From: [Eric Blischke](#)
To: Jim.McKenna@portofportland.com; ricka@bes.ci.portland.or.us; rjw@nwnatural.com
Cc: [Chip Humphrey](#); [Dana Davoli](#); [Burt Shephard](#)
Subject: Process for Round 3B Data Gap Identification
Date: 04/19/2007 04:07 PM

All,

As you are aware, EPA has developed a set of preliminary comments on the Round 2 Data Report. As stated in the email that accompanied the preliminary comments, the purpose of the preliminary list was "to initiate the conversation about the steps necessary to complete data collection efforts related to the Portland Harbor RI/FS." Although our preliminary comments focused on areas of disagreement, EPA believes that there are many elements of the report where we are in agreement regarding the evaluation approach. EPA would like to focus on these areas to reach agreement on the data collection necessary to complete Portland Harbor RI/FS. EPA believes that once we reach agreement on the screening step and understand the distribution of contamination and risks, we will be in a good position to reach agreement on data gaps. EPA recognizes that there are areas where EPA and the LWG do not agree on the evaluation approach and that further discussion between EPA and the LWG will be required prior to completion of the baseline risk assessment, remedial investigation report and feasibility study report. However, if we build off the screening approach, we will be able to reach agreement on the Round 3B data gaps in a relatively short time and ensure that the project remains on schedule.

In order to move forward with the identification of data gaps, EPA proposes the following steps.

Step 1: Identify issues that must be addressed to support the evaluation necessary for the identification of data gaps. Clearly our respective technical teams will need to reach agreement on this. However, in the meantime, an initial list of issues is presented below:

Food Web Model - What changes are needed to the food web model and what additional data is needed to support it?

Biota Tissue - what is the purpose of additional biota collection - e.g., baseline monitoring, food web modeling, evaluating potential sources, upstream tissue levels, etc?

Benthic Models for Predicting Toxicity - What changes to the predictive models are required? How will the two predictive models be used in a complimentary fashion? How do the predictive models match up with other LOE? What additional data collection will be required to improve performance of the models or to estimate risks in areas where the models do not predict well?

TZW Follow-up - What is the risk framework for TZW? What additional data is needed to complete the risk evaluation? Is comparison to ARARs sufficient from the stand point of a protectiveness evaluation? Who is responsible (LWG or upland parties) for additional characterization to delineate the extent of contaminated groundwater discharge?

PAHs and TPH - The benthic models do not handle these well. Tissue based TRVs are not available (beyond screening level TRVs) for comparison to clam tissue data. The dietary assessment of PAHs has a lot of uncertainty. What are the biggest uncertainties in the assessment of PAHs and what steps are needed to reduce this uncertainty?

Risk Assessment Scale - What are the disconnects regarding risk assessment scale? How can the mapping step help resolve this disconnect?

Bioaccumulative Chemicals - Critical tissue concentrations and the application of BSAFs/FWM are necessary to develop sediment RBCs protective of humans and wildlife that consume fish. How will BSAFs/FWM be applied as a screening step for mapping purposes?

Upstream Sediment - The LWG has proposed an Analyte by analyte assessment of existing data set and statistical evaluation to determine sample numbers and target analyses for upriver sediment. How will this be done and what additional evaluation, if any is necessary?

Loading Estimates: Sources with the greatest uncertainty regarding the loading estimates may benefit from additional data collection to refine loading estimates. What loading terms should be considered? How should these loading terms be quantified?

Step 2: Reach Agreement on anything that needs to be resolved prior to mapping step. These include:

- LOE to be evaluated in screening level mapping exercise.
- Which LOE to map concurrently (Overlay)
- Which Chemicals for which LOE should be mapped.
- BSAFs/FWM approach to develop sediment RBCs for bioaccumulative chemicals.
- Evaluation of upstream sediment chemistry

Step 3: Develop Maps. Data should be mapped based on the results of screening level risk evaluation. Apply realism when possible - e.g., appropriate exposure point concentrations, or more realistic exposure scenarios for human health. Use evaluation to ensure adequate spatial coverage and to ensure that small areas of localized risk are accounted for. The goal of the mapping step is to reach general agreement on additional sampling needs. Mapping efforts may be performed jointly by EPA and LWG representatives. Again, our technical teams will need to reach agreement on how to map contaminant data. However, an initial list of maps by media is presented below.

Sediment

Upstream Data: The LWG is preparing an FSP for upstream sediment collection. This FSP is expected in early to mid- May. It is unclear whether any mapping is required to support this effort.

Subsurface Sediment: Mapping of subsurface data will be required. Need to identify the depth interval we should focus on. It may be useful to focus on shallow subsurface sediments (10 - 100 cm) because these are the sediments most likely to

be mobilized during high flow events.

Risk to Human Health - Direct Contact with Sediment: Expand existing analysis to greater risk range.

Risk to Benthic Community - Direct Exposure to sediment Map additional LOE. Show overlays (See NOAA example and TZW discussion below).

TZW

TZW - Human Health Risk: The primary human health exposure pathway for TZW is update by benthic organisms and human consumption of the benthic organisms. TZW should be mapped against human health AWQC. Need to determine whether we focus on total or dissolved concentrations and what chemicals to map. Overlay data with clam and crayfish tissue compared to critical tissue values protective of human health.

TZW - Ecological Risk: The primary ecological exposure pathway for TZW is direct exposure to the benthic community. Map TZW against chronic AWQC. Determine whether to focus on total or dissolved concentrations. Overlay data with other benthic LOE such as bioassay results, comparison of sediment data to SQGs, predictive models for benthic toxicity (i.e., LRM, FPM), clam, crayfish and sculpin data compared to tissue TRVs, sediment concentrations protective of clams, crayfish and sculpin based on application of a BSAF.

Fish Tissue and Sediment RBCs

Fish Consumption Risk - Human Health: Develop sediment RBCs based on critical tissue levels protective of human health. Look at multiple risk ranges. Apply BSAFs or FWM. Focus on carp, small mouth bass, clams and crayfish (see TZW discussion above for more information about mapping clam and crayfish data). Will need confirmation on how to apply BSAFs or FWM to develop sediment RBCs, what chemicals and what fish species to map.

Fish Consumption Risk - Ecological Risk: Develop sediment RBC based critical tissue levels protective of wildlife consumers of fish. Will need confirmation on how to apply BSAFs or FWM to develop sediment RBCs, what chemicals and what fish species to map.

Risk to Fish based on Tissue based TRVs: Apply BSAFs or FWM to come up with sediment concentrations protective of fish.

Risk to Fish based on Dietary TRVs: Will need to develop sediment RBCs protective of fish based on application of dietary exposure formulas. Focus on handful of chemicals that screen in based on dietary exposure.

Surface Water:

Fish Consumption Risk - Human Health: Compare surface water to fish consumption AWQC and site specific screening levels based on 175 g/day. Overlay surface water exceedances with other fish consumption LOE.

Risk to Aquatic Organisms - Compare surface water to chronic AWQC. Overlay

surface water exceedances with other LOE related to protection of aquatic life.

Step 4: Develop FSPs: LWG is developing FSPs for a number of media. FSPs along with mapping exercise may be used to reach agreement on data gaps relative to:

- Upstream sediment for the purpose of establishing background concentrations.
- Lateral extent of sediment contamination.
- Vertical extent of subsurface sediment contamination.
- Bioassays for the purpose of estimating risk to the benthic community.
- Geotechnical and physical parameters
- Debris identification

While the FSPs under development or contemplated by the LWG will address a significant portion of the Round 3B data gaps, FSPs may be needed to address data needs relative to transition zone water, biota tissue, and source loading. These FSPs should be developed once we have reached agreement on the relevant technical issues identified above.

In addition to the steps outlined above, we will also need to review the Round 3A data to determine whether any follow-up work is required.

We believe that the above steps, if tackled efficiently, represent a good approach for us to finalize the Round 3B data gaps in a timeframe that allows us complete sampling by the end of 2007 and keep the overall project on schedule. I look forward to discussing this approach further next Wednesday.

Thanks, Eric